

REMARKS

Claims 2, 19, 20, and 22 have been amended. Claim 38 has been added. No new matter has been added. Support for the amendments can be found in Figures 7-9 and paragraph [0032] of the specification. Claims 2, 4, 19-32, and 38 are presented for further examination in this application and are believed to be in condition for allowance.

Allowable Subject Matter

Applicants thank the Examiner for the allowance of claim 4.

35 U.S.C. § 112 Rejections

Claim 20 stands rejected under 35 U.S.C. §112, second paragraph, for alleged indefiniteness. Applicants have corrected the typographical error and the claim now reads that the distal end, not the proximal end, of the light guide is connected to a fused fiber optic image conduit. Therefore, Applicants respectfully request the withdrawal of the rejection based on 35 U.S.C. § 112, second paragraph.

35 U.S.C. § 102 Rejections

Claims 2, 19-24 and 29-31 stand rejected under 35 U.S.C. 102(e) as being anticipated by Bianchetti et al., U.S. Patent No. 6,857,873, ("Bianchetti").

The claimed invention of claim 2, as presently amended, recites a light guide comprising an entrance area, a lens, at least one reflector, and a light pipe wherein the entire light guide including the entrance area, lens, reflector, and light pipe is constructed of a single homogenous continuous material. The distal end of the light pipe is sized to be placed inside a patient's mouth. Bianchetti fails to teach such a light guide. Bianchetti teaches a light guide 40 comprising an entrance area 41, a lens 42, a reflector 43, and a light pipe 50. However, Bianchetti fails to teach where in the components of the light guide are constructed of a single homogenous continuous material. In Bianchetti, light pipe 50 is a completely separate material from optical conveyor 40 (see col. 4, lines 1-5 of Bianchetti). The Office avers that second tapered portion 45 constitutes a light pipe. However, second tapered portion 45 is not sized to be placed inside a patient's mouth. Second tapered portion 45 and entire optical conveyor 40 is enclosed by cover 6 and is not designed to be placed inside a patient's mouth (see col. 4, lines 15-26 and Fig. 1). Bianchetti further demonstrates that second tapered portion 45 is not sized to be placed inside a patient's mouth by teaching attaching optical fiber 50 to the distal end of the optical conveyor 40 (see col. 4, lines 1-15). Optical fiber 50 is used to transmit light to a patient's teeth.

Claim 19 recites a light guide for use in a dental curing device comprising a proximal end and distal end wherein the proximal end comprises a reflecting means and a refracting means. The reflecting means is concave to the light

source of the dental curing device. Immediately distal to the concave reflecting means is a straight wall section. Claim 22 recites a dental light curing device comprising a light guide with the same limitations as stated above. Bianchetti fails to teach such a light guide. Bianchetti teaches a light guide 40 comprising an entrance area 41, a lens 42, a reflector 43, and a light pipe 50. Reflector 43 is concave towards light source 30. However, immediately distal to the reflector 43 is second tapered portion 45 (see col. 5, lines 30-38). As can be clearly seen in Fig. 3 and as is clearly ascertained from the description of second tapered portion, second tapered portion 45 is not a straight wall section. Note there is no teaching or suggestion to eliminate portion 45 because Bianchetti specifically teaches that second tapered portion 45 is tapered in order to efficiently reflect light refracted by lens 42 at a small angle of reflection (see col. 5, lines 30-50).

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. In deciding the issue of anticipation, the trier of fact must identify the elements of the claims, determine their meaning in light of the specification and prosecution history, and identify corresponding elements disclosed in the allegedly anticipating reference. *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.* 730 F.2d 1452, 1462; 221 USPQ 481, 485 (Fed. Cir. 1984). "It is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention" *Hybritiech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ 81 (Fed Cir. 1986). "Anticipation

under 35 U.S.C. §102 requires the disclosure in a single piece of prior art each and every limitation of a claimed invention” *Apple Computer, Inc. v. Articulate Systems, Inc.*, 234 F.3d 14, 57 USPQ2d 1057 (Fed. Cir. 2000) quoting *Electro Med. Sys. S.A. v. Cooper Life Sciences*, 34 F.3d 1048, 1052, 32 USPQ2d 1017, 1019 (Fed. Cir. 1994).

Because Bianchetti fails to teach each and every limitation of the claimed invention, Bianchetti cannot anticipate the claimed invention. Accordingly, Applicants respectfully request the withdrawal of the rejections based on 35 U.S.C. 102.

35 U.S.C. § 103 Rejections

Claims 25-28 and 32 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bianchetti in view of Kovac et al, U.S. Patent No. 6,200,134, (“Kovac”).

Claims 25-28 and 32 recite a dental light curing device comprising at least one light source and a light guide. The light guide comprises a proximal end and distal end wherein the proximal end comprises a reflecting means and a refracting means. The reflecting means is concave to the light source of the dental curing device. Immediately distal to the concave reflecting means is a straight wall section. The light source is a multiple LED. As stated above, Bianchetti fails to teach or suggest such a light curing device since second tapered portion 45 of optical conveyor 40 is immediately distal to concave reflector 43. Kovac fails to cure this deficiency. Kovac teaches a dental light

curing device comprising light source 60 and light guide 67. However, light guide 67 does not have a straight wall section immediately distal to a concave reflector.

Moreover, although Kovac teaches that light source 60 may comprise multiple LEDs, there is no motivation to modify the dental light curing device of Bianchetti to include multiple LEDs. This lack of motivation is evidenced by the teaching of Bianchetti that the light curing device is specifically designed for use with a single LED (see col. 3, lines 3-16). This is a significant teaching away from the claimed invention.

There is no suggestion to combine...if a reference teaches away from its combination with another source. *Tec Air, Inc. v. Denso Manufacturing Michigan Inc.*, 192 F.3d 1353, 52 USPQ2d 1294 (Fed. Cir. 1999). A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant...[or] if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. *In re Gurley*, 27 F.3d 551, 31 USPQ2d 1130 (Fed. Cir. 1994).

Because Bianchetti and Kovac, in combination, fails to teach or suggest each and every element of the claimed invention and because there is no motivation to combine the teachings of Bianchetti and Kovac in the manner relied upon by the Office, the combination of references cannot render the

claimed invention obvious. Accordingly, Applicants respectfully request the withdrawal of the rejections under 35 U.S.C. 103.

Newly Added Claim

Newly added claim 38 recites a dental light curing device. The device comprises a housing, at least one light source, and a light guide. The light guide comprises an entrance area, a lens, at least one reflector, and a light pipe. The lens, at least one reflector, and light pipe are constructed of a single continuous homogeneous material. The light pipe comprises a proximal end and a distal end. The proximal end of the light pipe is distal to the reflector and the distal end of the light pipe is sized to be placed inside a patient's mouth such that light is projected onto a single tooth. The distal end of the light pipe is not enclosed by the housing.

Claim 38 is patentable for the reasons cited above for claim 2. Additionally claim 38 is patentable because the distal end of the light guide is not enclosed by the housing. As stated above, Bianchetti teaches the distal end of optical conveyor 40 is enclosed by housing 6. Accordingly, Bianchetti fails to teach a light curing device comprising a light guide comprising a lens, at least one reflector, and light pipe all constructed of a single continuous homogeneous material wherein the distal end of the light pipe is not enclosed by a housing. Bianchetti teaches light pipe 50 is constructed of a separate material from optical conveyor 40.

Other Pertinent Art

Applicants have reviewed the prior art made of record but not relied upon. None of the references teach or suggest the claimed invention. In particular, none of the references teach or suggest a light guide having the characteristics of the claimed invention.

REMARKS

Applicants believe the present paper to be a complete and thorough response to the Non-Final Office Action. In view of the foregoing amendments and remarks, the application is respectfully submitted to be in condition for allowance. Accordingly, a timely favorable action is earnestly solicited.

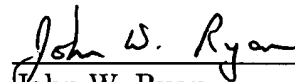
If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #101867.56513US).

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Respectfully submitted,

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John W. Ryan
Registration No. 33,771

Craig P. Lytle
Registration No. 53,934

CROWELL & MORING LLP
Intellectual Property Group
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844
JWR:cpl
dn#2890255v1